

AD-A082 561

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
19702A GSRS, MISSILE NUMBERS 314, 213, ROUND NUMBERS R-55, R-56--ETC(U)

UNCLASSIFIED

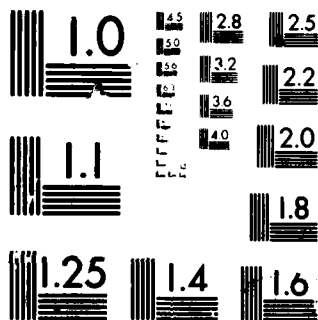
OCT 79  
ERADCOM/ASL-DR-1087

NL

[ 24 ]  
201  
201 201 201



END  
DATE  
FILMED  
5-80  
DTIC



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

IN 1007  
30 October 1979  
AD

LEVEL II

ADA 082561

METEOROLOGICAL DATA REPORT

19702A GSRS  
Missile Nos. 314, 213  
Round Nos. B-55, B-56  
30 October 1979

by

White Sands Meteorological Team

DTIC  
ELECTE  
APR 3 1980  
D

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

DOC FILE COPY

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

THIS DOCUMENT IS BEST QUALITY PRACTICES.  
THE COPY FURNISHED TO DDC CONTAINED A  
SIGNIFICANT NUMBER OF PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.

80 3 28 054

## **DISCLAIMER NOTICE**

**THIS DOCUMENT IS BEST QUALITY  
PRACTICABLE. THE COPY FURNISHED  
TO DTIC CONTAINED A SIGNIFICANT  
NUMBER OF PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.**

1

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1087	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19702A GSRS, Missile Numbers 314, 213, Round Numbers B-55, B-56, 30 October 1979.	5. ERADCOM	6. TYPE OF REPORT & PERIOD COVERED ASL-DR-1087
7. AUTHOR(s) 9. data rept. White Sands Meteorological	8. CONTRACT OR GRANT NUMBER(s) 16. DA Task 1F665702D127402	9. PERFORMING ORG. REPORT NUMBER
10. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002	11. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 12. 20	13. REPORT DATE October 1979
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research & Development Cmd Adelphi, MD 20783	15. SECURITY CLASS. (of this report) UNCLASSIFIED	16. NUMBER OF PAGES 19
17. DISTRIBUTION STATEMENT (of this Report)		
18. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
19. SUPPLEMENTARY NOTES		
20. KEY WORDS (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19702A GSRS, Missile Numbers 314, 213, Round Numbers B-55, B-56 are presented in tabular form.		
21. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

410663

# CONTENTS

	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
LAUNCH AREA MAP-----	2
GENERAL AREA MAP-----	3
TABLES	
1. Surface Observations taken at 1028 MST-----	4
2. Anemometer Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1027 MST-----	5
3. Anemometer Measured Wind Speed and Direction, Tower Levels 1, 2, 3 and 4, taken at 1027 MST-----	5
4. LC-33 Pilot Balloon Measured Wind Data at 1010 MST-----	6
5. LC-33 Pilot Balloon Measured Wind Data at 1027 MST-----	7
6. Nick Site Pilot Balloon Measured Wind Data at 1005 MST-----	8
7. Nick Site Pilot Balloon Measured Wind Data at 1027 MST-----	9
8. SMR Significant Level Data at 0930 MST-----	10
9. SMR Upper Air Data at 0930 MST-----	11
10. SMR Mandatory Levels at 0930 MST-----	15

Accession For	
NTIS ORAI	<input checked="" type="checkbox"/>
NSC TAB	
Unannounced Justification	
By _____	
Distribution _____	
Availability _____	
Dist	Available for special
A	23 CP

## INTRODUCTION

19702A GSRS, Missile Numbers 314 and 213,  
Round Numbers B-55 and B-56, were launched from LC-33,  
White Sands Missile Range (WSMR), New Mexico, at 1027:03 and 1027:09,  
on 30 October 1979. The schedule launch times were 1015 and  
1015:04 MST.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), Wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

#### b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

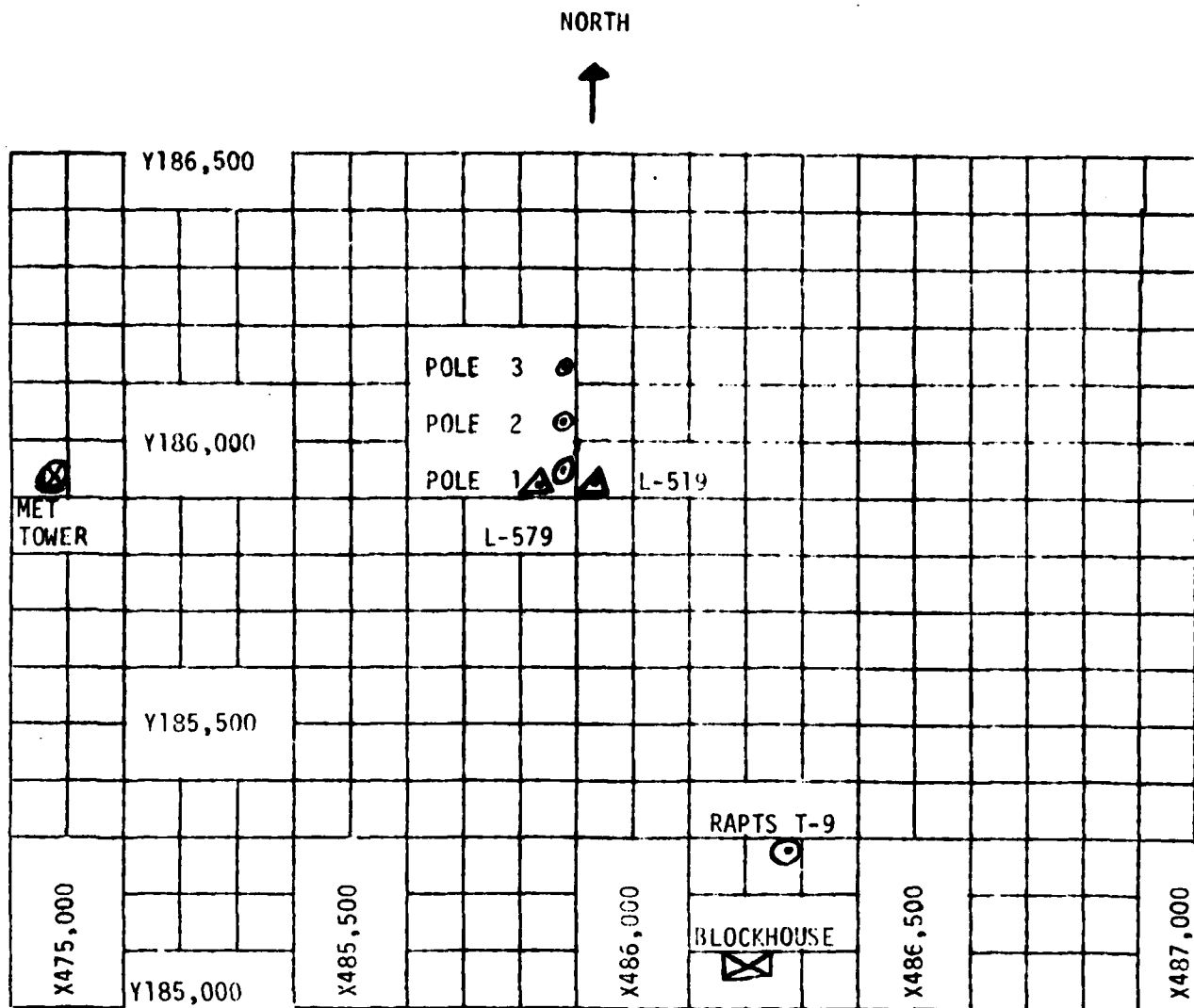
#### SITE AND ALTITUDE

LC-33 2Km  
Nick 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 78,500 feet in 500-foot increments.

#### SITE AND TIME

SMR 0930 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
  - (a) Pole #1 - 38.7 ft.
  - (b) Pole #2 - 53.0 ft.
  - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.



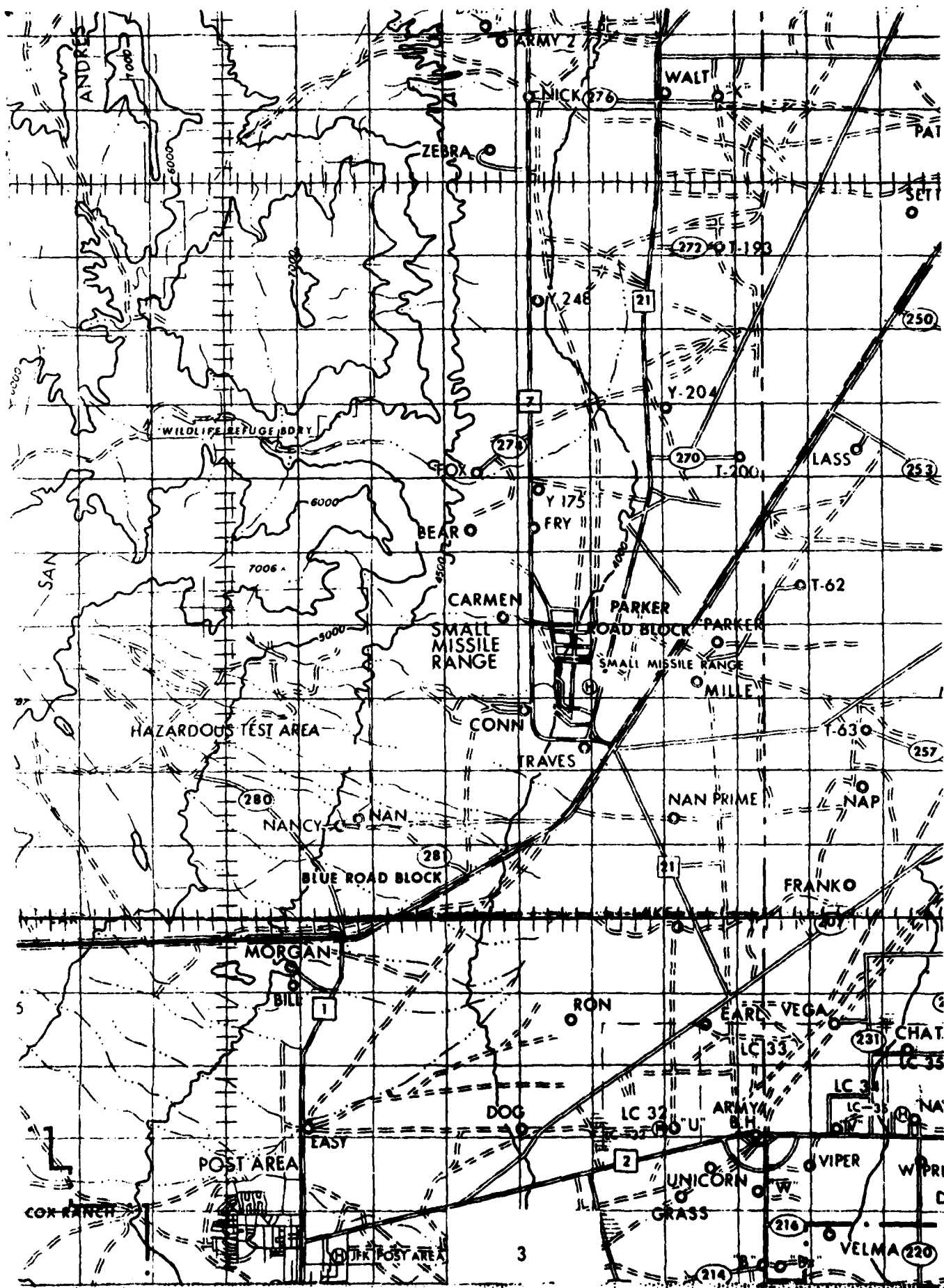


TABLE 1. Surface Observations taken at 1028 MST,  
30 October 1979, at LC-33, 19702A GSRS,  
Missile Numbers 314, 213, Round  
Numbers B-55, B-56.

ELEVATION	3977.30	FT/MSL
PRESSURE	870.9	MBS
TEMPERATURE	11.2	°C
RELATIVE HUMIDITY	41	%
DEW POINT	-1.5	°C
DENSITY	1062	GM/M <sup>3</sup>
WIND SPEED	07	KTS
WIND DIRECTION	300	DEGREES
CLOUD COVER	7	Sc
CLOUD COVER	1	Ac

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	285	11	-30	291	11	-30	284	08
-20	322	09	-20	315	09	-20	306	11
-10	294	14	-10	308	08	-10	MISG	12
0.0	308	09	0.0	291	09	0.0	MISG	14
+10	318	16	+10	313	11	+10	MISG	15

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	267	15	-30	300	15
-20	287	20	-20	299	16
-10	286	18	-10	305	11
0.0	297	17	0.0	313	13
+10	307	16	+10	315	14

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	300	17	-30	297	14
-20	298	16	-20	302	12
-10	336	15	-10	310	08
0.0	321	15	0.0	304	11
+10	320	15	+10	302	09

## PILOT BALLOON MEASURED WIND DATA

**TABLE 4**

RELEASED FROM LC-33                      DATE 30 October 1979                      TIME 1010 MST

RELEASE POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL XXX OR FEET AGL     .

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33

DATE 30 October 1979

TIME 1027 MST

RELEASE POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL xxx OR FEET AGL     .

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK SITE

DATE 30 October 1979

TIME 1005 MST

RELEASE POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGLXXX OR FEET AGL.

[illegible][illegible][illegible]

## PILOT BALLOON MEASURED WIND DATA

TABLE 7

RELEASED FROM NICK SITE DATE 30 October 1979 TIME 1027 MST

RELEASE POINT COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHTS ARE METERS AGL xxx OR FEET AGL.     .

[illegible][illegible][illegible]

GEODETIC COORDINATES  
 32.48034 LAT DEG  
 106.42307 LON DEG

SIGNIFICANT LEVEL DATA  
 3030060369  
 S M R

STATION ALTITUDE 3997.30 FEET MSL  
 30 OCT. 79  
 0930 HRS MST  
 ASCENSION NO. 359

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
869.8	3997.3	11.2	-2.6	38.0
850.0	4524.6	7.7	-3.2	46.0
783.6	6634.2	2.1	-5.1	59.0
700.0	9749.9	-6.1	-6.6	95.0
644.6	11453.3	-11.0	-11.1	99.0
635.6	12200.9	-10.7	-10.8	99.0
627.2	12544.6	-12.1	-12.2	99.0
585.2	14277.1	-15.5	-19.1	74.0
577.0	14627.5	-15.4	-23.0	52.0
569.0	14973.5	-16.3	-27.6	36.0
560.6	15332.2	-17.0	-32.3	25.0
536.8	16407.3	-18.9	-35.7	21.0
500.0	18133.1	-22.8	-37.7	24.0
403.2	23192.7	-35.4	-48.0	26.0
400.0	23375.3	-35.3	-48.2	25.0
389.6	23978.1	-36.2	-50.5	21.0
348.5	26500.9	-40.5		
313.0	28926.5	-37.4		
302.0	29890.0	-37.4		
278.0	31614.1	-39.6		
259.0	33996.2	-41.4		
225.2	36330.9	-41.6		
207.9	38107.1	-44.1		
204.6	38461.5	-43.1		
200.0	38965.2	-44.1		
188.2	40304.3	-45.9		
175.2	41877.8	-44.9		
150.0	45254.3	-51.0		
122.4	49565.2	-56.3		
100.0	53773.9	-59.0		
94.4	54763.0	-60.3		
88.6	56271.3	-59.1		
83.0	57612.6	-62.2		
77.8	58938.1	-60.3		
70.0	61093.2	-64.1		
62.4	63411.5	-65.1		
59.2	64483.2	-60.3		
50.0	67473.1	-58.9		
30.0	78629.3	-56.5		



STATION ALTITUDE 3997.30 FEET MSL  
30 OCT. 79 0930 HRS MST  
ASLATION NO. 369

UPPER AIR DATA  
3030000309  
S M R  
TABLE 9

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3997.3	809.8	11.2	38.0	1063.3	657.7	300.0	9.9	1.000261
4000.0	809.7	11.2	38.0	1063.2	657.6	300.0	9.9	1.000261
4000.0	853.9	8.4	44.4	1054.3	654.4	305.5	11.9	1.000258
5000.0	838.2	6.7	48.4	1041.3	652.4	309.4	14.0	1.000255
5500.0	822.7	5.3	51.7	1027.2	650.7	312.3	16.1	1.000251
6000.0	807.5	3.9	54.9	1013.4	649.1	315.5	17.2	1.000248
6500.0	792.6	2.5	58.1	999.7	647.4	323.3	14.7	1.000244
7000.0	777.6	1.1	63.2	985.7	645.9	332.9	12.8	1.000241
7500.0	762.9	-0.2	69.0	971.6	644.3	342.2	11.8	1.000238
8000.0	748.5	-1.5	74.8	957.8	642.8	347.4	11.7	1.000234
8500.0	734.3	-2.8	80.6	944.3	641.2	359.6	13.5	1.000231
9000.0	720.4	-4.1	86.3	930.9	639.6	354.2	15.3	1.000228
9500.0	706.7	-5.4	92.1	917.8	638.1	351.1	16.3	1.000224
10000.0	693.2	-6.7	95.5	904.5	636.6	328.3	17.3	1.000220
10500.0	679.7	-7.8	96.4	890.9	635.1	327.1	17.7	1.000216
11000.0	666.5	-9.0	97.4	877.6	633.7	326.0	18.0	1.000212
11500.0	653.6	-10.2	98.3	864.4	632.3	322.2	17.6	1.000208
12000.0	640.9	-10.9	99.0	849.9	631.4	316.8	17.1	1.000204
12500.0	628.3	-11.9	99.0	836.7	630.1	308.4	17.1	1.000200
13000.0	615.9	-13.0	92.4	823.6	628.5	298.0	17.7	1.000195
13500.0	603.7	-14.0	85.2	810.5	627.5	296.2	20.7	1.000191
14000.0	591.7	-15.0	78.0	797.6	626.3	300.1	23.6	1.000186
14500.0	580.0	-15.4	60.0	783.4	625.0	307.5	25.1	1.000181
15000.0	568.4	-16.4	35.2	770.8	624.4	314.9	24.6	1.000175
15500.0	557.0	-17.3	24.4	758.2	623.2	320.9	24.3	1.000171
16000.0	545.8	-18.2	22.5	745.5	622.1	322.8	25.2	1.000168
16500.0	534.8	-19.1	21.2	732.2	621.0	323.1	26.1	1.000165
17000.0	523.9	-20.2	22.0	721.4	619.6	322.3	27.0	1.000162
17500.0	513.2	-21.4	22.9	709.9	618.2	320.0	27.7	1.000160
18000.0	502.7	-22.5	23.6	698.6	616.8	317.4	28.2	1.000157
18500.0	492.3	-23.7	24.1	687.4	615.3	314.4	29.4	1.000154
19000.0	481.9	-25.0	24.3	676.3	613.8	311.7	32.6	1.000152
19500.0	471.8	-26.2	24.5	665.4	612.2	309.6	35.7	1.000149
20000.0	461.8	-27.4	24.7	654.7	610.7	309.2	38.3	1.000147
20500.0	452.1	-28.7	24.9	644.2	609.1	308.9	40.9	1.000144
21000.0	442.6	-29.9	25.1	633.9	607.0	308.7	41.3	1.000142
21500.0	433.3	-31.2	25.3	623.8	606.0	308.0	41.0	1.000140
22000.0	424.2	-32.4	25.5	613.8	604.5	308.5	39.9	1.000137
22500.0	415.3	-33.7	25.7	604.0	602.9	308.6	38.0	1.000135
23000.0	406.5	-34.9	25.9	594.4	601.3	308.4	36.5	1.000133

STATION ALTITUDE 3997.30 FEET MSL  
30 OCT. 79 0930 HRS MST  
ASCENSION I.O. 309

UPPER AIR DATA  
3030000309  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	397.8	-35.5	24.2	583.1	600.6	308.0	35.5	1.000130
24000.0	389.2	-36.2	20.8**	572.3	599.7	307.0	35.2	1.000128
24500.0	380.7	-37.1	16.7**	561.5	596.6	307.4	36.5	1.000125
25000.0	372.4	-37.9	12.5**	551.5	597.5	307.7	38.4	1.000123
25500.0	364.3	-38.8	8.3**	541.5	596.4	309.0	41.7	1.000121
26000.0	356.3	-39.6	4.2**	531.0	595.3	310.6	45.2	1.000118
26500.0	348.3	-40.5	.0**	521.9	594.2	313.5	48.9	1.000116
27000.0	340.9	-39.9		509.0	595.0	316.0	52.7	1.000113
27500.0	333.4	-39.2		496.5	595.8	316.7	53.1	1.000111
28000.0	326.1	-38.6		484.3	596.7	317.2	53.1	1.000108
28500.0	319.0	-37.9		472.4	597.5	314.3	47.8	1.000105
29000.0	312.0	-37.4		461.0	598.2	310.8	43.5	1.000103
29500.0	305.2	-37.4		451.0	598.2	307.7	43.5	1.000100
30000.0	298.6	-37.5		441.4	598.0	305.0	44.1	1.000098
30500.0	292.0	-38.2		433.0	597.2	305.7	47.5	1.000096
31000.0	285.6	-38.8		424.6	596.4	306.2	50.8	1.000095
31500.0	279.3	-39.5		416.5	595.6	305.6	50.7	1.000093
32000.0	273.3	-39.9		408.1	595.0	305.1	50.5	1.000091
32500.0	267.2	-40.3		399.8	594.5	302.8	50.3	1.000089
33000.0	261.3	-40.6		391.6	594.0	300.3	50.2	1.000087
33500.0	255.6	-41.0		383.0	593.5	298.4	50.0	1.000085
34000.0	250.0	-41.4		375.7	593.1	296.7	49.7	1.000084
34500.0	244.4	-41.5		367.5	593.0	295.1	49.0	1.000082
35000.0	239.3	-41.5		359.4	593.0	293.4	48.1	1.000080
35500.0	233.7	-41.5		351.5	592.9	288.2	48.9	1.000078
36000.0	228.6	-41.6		343.8	592.8	281.7	50.9	1.000077
36500.0	223.5	-41.8		336.6	592.5	276.3	56.2	1.000075
37000.0	218.5	-42.5		330.1	591.6	276.3	62.5	1.000074
37500.0	213.7	-43.2		322.7	590.7	277.1	66.8	1.000072
38000.0	208.9	-43.9		317.5	589.8	278.5	70.5	1.000071
38500.0	204.2	-43.2		309.4	590.8	281.3	68.9	1.000069
39000.0	199.7	-44.1		303.8	589.5	284.9	65.9	1.000068
39500.0	195.2	-44.8		297.8	588.7	285.5	61.1	1.000066
40000.0	190.8	-45.5		292.0	587.8	285.1	55.7	1.000065
40500.0	186.5	-45.8		285.8	587.4	279.9	51.0	1.000064
41000.0	182.3	-45.5		279.0	587.9	272.7	47.1	1.000062
41500.0	178.2	-45.1		272.3	588.3	269.3	43.5	1.000061
42000.0	174.2	-45.1		266.2	588.5	266.1	39.9	1.000059
42500.0	170.3	-46.0		261.1	587.1	265.0	38.3	1.000058
43000.0	166.4	-46.9		256.2	586.0	265.5	37.0	1.000057

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3997.30 FEET MSL  
30 OCT. 79 0930 HRS MST  
ASCENSION NO. 369

UPPER AIR DATA  
3030000369  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
43500.0	162.6	-47.8			251.4	584.8	267.3	37.3	1.000056
44000.0	158.9	-48.7			246.7	583.6	268.8	38.1	1.000055
44500.0	155.3	-49.6			242.0	582.4	269.0	40.8	1.000054
45000.0	151.8	-50.5			237.5	581.3	270.0	43.0	1.000053
45500.0	148.3	-51.3			232.8	580.3	272.4	44.6	1.000052
46000.0	144.8	-51.9			228.0	579.5	276.2	44.2	1.000051
46500.0	141.4	-52.5			223.3	578.7	281.2	42.7	1.000050
47000.0	138.1	-53.1			218.7	577.8	281.7	39.4	1.000049
47500.0	134.9	-53.8			214.2	577.0	281.7	35.8	1.000048
48000.0	131.8	-54.4			209.8	576.2	274.1	32.0	1.000047
48500.0	128.7	-55.0			205.5	575.4	262.7	29.2	1.000046
49000.0	125.7	-55.6			201.3	574.6	255.3	29.6	1.000045
49500.0	122.8	-56.2			197.2	573.8	251.5	31.6	1.000044
50000.0	119.9	-56.6			192.8	573.3	250.6	33.6	1.000043
50500.0	117.0	-56.9			188.5	572.9	252.9	35.4	1.000042
51000.0	114.2	-57.2			184.3	572.5	254.6	36.6	1.000041
51500.0	111.5	-57.5			180.2	572.0	255.1	35.5	1.000040
52000.0	108.9	-57.9			176.2	571.6	255.6	34.5	1.000039
52500.0	106.3	-58.2			172.3	571.2	255.4	36.0	1.000038
53000.0	103.8	-58.5			168.4	570.8	255.3	37.6	1.000038
53500.0	101.3	-58.8			164.7	570.3	254.2	37.3	1.000037
54000.0	98.9	-59.2			161.1	569.8	252.8	36.7	1.000036
54500.0	96.5	-59.8			157.6	569.0	251.6	33.7	1.000035
55000.0	94.2	-60.3			154.2	568.4	250.3	28.4	1.000034
55500.0	92.0	-60.8			150.2	569.0	249.5	24.0	1.000033
56000.0	89.8	-60.3			146.3	569.6	252.5	22.8	1.000033
56500.0	87.6	-59.6			143.0	569.3	255.8	21.7	1.000032
57000.0	85.5	-60.8			140.3	567.7	259.3	19.7	1.000031
57500.0	83.5	-61.9			137.5	568.2	263.7	17.4	1.000031
58000.0	81.4	-61.6			134.1	566.6	269.0	14.9	1.000030
58500.0	79.5	-60.9			130.5	567.5	276.4	10.4	1.000029
59000.0	77.6	-60.4			127.0	568.2	293.9	6.3	1.000028
59500.0	75.7	-61.3			124.5	567.0	326.6	4.9	1.000028
60000.0	73.9	-62.2			121.9	565.9	352.9	5.8	1.000027
60500.0	72.1	-63.1			119.5	564.7	9.6	7.5	1.000027
61000.0	70.3	-63.9			117.1	563.5	26.4	6.9	1.000026
61500.0	68.6	-64.3			114.4	563.0	48.8	6.4	1.000025
62000.0	66.9	-64.5			111.7	562.7	71.4	6.8	1.000025
62500.0	65.3	-64.7			109.1	562.5	104.0	6.5	1.000024
63000.0	63.7	-64.9			106.5	562.2	151.0	8.1	1.000024

STATION ALTITUDE 3997.30 FEET MSL  
30 OCT. 79 0930 HRS MST  
ASCENSION: NO. 309

UPPER AIR DATA  
3030000309  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 9 (CONT)

GEOMETRIC ALTITUDE MSL FELT	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	62.1	-64.7		103.8	562.5	147.9	9.7	1.000023
64000.0	60.6	-62.5		100.2	565.5	162.2	10.5	1.000022
64500.0	59.2	-60.3		96.8	568.4	173.7	12.0	1.000022
65000.0	57.7	-60.1		94.4	568.6	189.2	12.2	1.000021
65500.0	56.4	-59.9		92.1	568.9	204.0	13.1	1.000021
66000.0	55.0	-59.7		89.8	569.2	219.4	14.0	1.000020
66500.0	53.7	-59.5		87.5	569.5	239.5	14.7	1.000019
67000.0	52.4	-59.3		85.4	569.7	255.9	16.9	1.000019
67500.0	51.2	-59.1		83.3	570.0	265.4	15.5	1.000019
68000.0	49.9	-58.9		81.2	570.2	276.7	13.1	1.000018
68500.0	48.8	-58.8		79.2	570.4	290.6	11.1	1.000018
69000.0	47.6	-58.7		77.3	570.5	297.1	5.5	1.000017
69500.0	46.5	-58.6		75.4	570.7	25.1	1.2	1.000017
70000.0	45.4	-58.4		73.6	570.8	107.0	4.3	1.000016
70500.0	44.3	-58.3		71.8	571.0	137.4	7.0	1.000016
71000.0	43.2	-58.2		70.1	571.1	149.4	10.5	1.000016
71500.0	42.2	-58.1		68.4	571.3	168.0	11.9	1.000015
72000.0	41.2	-58.0		66.7	571.4	189.2	13.6	1.000015
72500.0	40.2	-57.9		65.1	571.6	204.0	16.8	1.000014
73000.0	39.3	-57.8		63.6	571.7	214.8	16.3	1.000014
73500.0	38.4	-57.7		62.0	571.9	226.4	15.8	1.000014
74000.0	37.5	-57.5		60.5	572.0	238.2	16.1	1.000013
74500.0	36.6	-57.4		59.1	572.2	248.5	14.5	1.000013
75000.0	35.7	-57.3		57.6	572.5	260.9	13.4	1.000013
75500.0	34.9	-57.2		56.2	572.5	274.8	12.9	1.000013
76000.0	34.0	-57.1		54.9	572.6	277.9	13.2	1.000012
76500.0	33.2	-57.0		53.5	572.8	280.4	13.6	1.000012
77000.0	32.4	-56.9		52.2	572.9	282.8	14.0	1.000012
77500.0	31.7	-56.8		51.0	573.1			1.000011
78000.0	30.9	-56.6		49.7	573.2			1.000011
78500.0	30.2	-56.5		48.5	573.4			1.000011

STATION ALTITUDE 3997.30 FEET MSL  
30 OCT. 79  
ASCENSION NO. 369

MANDATORY LEVELS  
3030060369  
S M R

GEODETIC COORDINATES  
32.48034 LAT DEG  
106.42307 LON DEG

TABLE 9 (CONT)

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4621.	7.7	-3.2	48.		306.6	12.4
800.0	6248.	3.2	-4.6	57.		319.1	15.9
750.0	7951.	-1.4	-5.3	74.		348.2	11.6
700.0	9741.	-6.1	-6.0	95.		329.7	16.8
650.0	11630.	-10.5	-10.7	99.		320.7	17.5
600.0	13640.	-14.3	-16.5	83.		298.4	21.6
550.0	15701.	-17.8	-33.6	29.		322.1	24.8
500.0	18109.	-22.8	-37.7	24.		318.7	28.3
450.0	20612.	-29.0	-42.7	25.		308.8	41.5
400.0	23338.	-35.3	-48.2	25.		308.1	35.7
350.0	26338.	-40.3	-77.4	1.**		312.9	48.1
300.0	29633.	-37.4				305.3	43.6
250.0	33924.	-41.4				298.8	49.7
200.0	38874.	-44.1				264.5	60.2
175.0	41798.	-44.9				266.9	40.7
150.0	45134.	-51.0				271.1	43.8
125.0	48925.	-55.8				254.5	30.0
100.0	53609.	-59.0				253.5	37.0
80.0	58174.	-61.1				273.4	11.8
70.0	60885.	-64.1				29.0	6.8
60.0	63979.	-61.5				166.5	11.0
50.0	67719.	-58.9				275.1	13.4
40.0	72325.	-57.9				205.7	17.1
30.0	78295.	-56.5					

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.